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(54) Title: **METHOD OF *IN SITU* DETECTION OF PROTEINS USING APTAMERS**

(57) Abstract: The present invention is a method for the detection and localization of proteins *in situ*. The method comprises contacting a peptide tag labelled protein with a nucleic acid aptamer that recognizes the peptide tag. The nucleic acid aptamer is functionalized such that is detectable by a variety of methods. The method allows for the detection of one or more proteins and/or protein complexes in sub-cellular and sub-nuclear structures with high specificity and also allows for the purification of such identified proteins.